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EXAMINER
OCAMPO, MARIANNE S

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/986,422	Applicant(s) PERALA, AULIS	
	Examiner Marianne S. Ocampo	Art Unit 1723	

-- Th MAILING DATE of this communication appears on the cov r sh t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-14* is/are rejected.

7)☒ Claim(s) *2* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3 – 4 and 7 - 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Janovac (US 4,491,517).

3. With regards to claim 1, Janovac discloses a filter cloth (screen, 10) composed of a plurality of yarns/wires (here, the term "yarn" has been defined broadly by the examiner to not only include those of filaments or fibers, but also including metallic wires, according to the definition of "yarn", given in Merriam-Webster Collegiate Dictionary, 10th ed. page 1370) in the transverse and longitudinal directions, the cloth (10) comprising a filtering portion having a structure and density according to desired filtering characteristics for separating liquid from a mixture of solids (particles) and liquid and which filter cloth (10) is capable of being arranged against a filtering element in a filtering apparatus (such as a vibratory screening machine) and an underside of the filter cloth (10) comprising substantially parallel yarns/wires (14) that are

thicker than the rest of the yarns/wires (12, 16) of the cloth (10) and the thicker yarns (14) being placed at predetermined intervals defined by the other yarns (12) of the cloth (10) extending parallel thereto to form parallel channels therebetween to enable a filtered liquid to flow therefrom, as in figs. 1 – 3 and cols.1 - 2.

4. Concerning claim 3, Janovac also discloses the diameter difference between the thicker yarns (14) and the other yarns (12, 16) of the cloth (screen, 10) being at least 1 : 1.5 or more, as in col. 2, lines 1 – 4.

5. With respect to claim 4, Janovac further discloses the thicker yarns (14) having the same direction of a weft wire/yarn (12), as in figs. 1 – 3.

6. Regarding claim 7, the term "yarn" has been defined broadly by the examiner to not only include those of filaments or fibers, but also including metallic wires, according to the definition of "yarn", given in Merriam-Webster Collegiate Dictionary, 10th ed. page 1370. Similarly as in claim 1, the claimed invention being considered is the subcombination of a filtering module comprising a filter cloth and does not include any limitations of the filtering element and apparatus used therewith. Janovac discloses a filtering module capable of being used/arranged on a filtering element (such as another screen or filtering member) as a filtering surface when liquid is separated from a mixture consisting of solids and liquid by means of a filtering apparatus (such as a vibratory screening machine), in which the filtering module is made

of a filter cloth (10) comprising a filtering layer *composed of* (comprising) yarns (wires, 14, 12, 16) in the transverse and longitudinal directions, and an underside of the cloth being comprised of substantially parallel yarns (wires, 14) that are thicker than the other yarns (12 & 16) of the cloth (10) and that channels (empty spaces at least between 14 &12) being formed between the thicker yarns by placement of the thicker yarns (14) at predetermined intervals defined by the other yarns (12) of the cloth (10) extending parallel thereto such that liquid filtered by the cloth (10) is allowed to flow in a direction of a surface of a filtering element being used therewith, as in figs. 1 – 3 and cols. 1 - 2.

7. With respect to claim 8, Janovac also discloses the filter cloth (10) being arranged such that the channels formed in a bottom end/portion of the cloth (10) are directed (to flow through and across) according to a structure (i.e. planar) of the filtering module, as in figs. 1 – 3 and cols. 1 – 2.

8. With regards to claim 9, since the examiner has considered the claimed invention in independent claim 7 being that only of the subcombination of a filtering module comprising of a filter cloth and does not include limitations of the filtering element, it is unclear if applicant is adding the limitation of a filtering element in this claim. For examination purposes, the examiner considered that the invention being claimed being capable of having its channels lead a filtered liquid to openings in a filtering element used (which would be placed either on top or bottom thereof or surrounding the cloth) therewith. Janovac further discloses the filter cloth (10) being

arranged such that the channels formed in a bottom end/portion of the cloth (10) are directed such that the channels can lead a filtered liquid (to flow therethrough and thereacross and finally to openings of a filtering element which may be placed all around the cloth or on top or on bottom thereof, as would be in a vibratory screening machine), as in figs. 1 – 3 and cols. 1 – 2.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1 and 5 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janovac (US 4,491,517) in view of Carr (WO 02/05974).

11. With regards to claim 1, in case that applicant insist that the term "yarns/yarn" which forms the filter cloth could only be of synthetic or polymeric filaments or fibers, the following rejection is applied. Janovac discloses a filter cloth (screen, 10) composed of a plurality of wires (12, 14, 16) in the transverse and longitudinal directions, the cloth (10) comprising a filtering

portion having a structure and density according to desired filtering characteristics for separating liquid from a mixture of solids (particles) and liquid and which filter cloth (10) is capable of being arranged against a filtering element in a filtering apparatus (such as a vibratory screening machine) and an underside of the filter cloth (10) comprising substantially parallel wires (14) that are thicker than the rest of the wires (12, 16) of the cloth (10) and the thicker wires (14) being placed at predetermined intervals defined by the other wires (12) of the cloth (10) extending parallel thereto to form parallel channels therebetween to enable a filtered liquid to flow therefrom, as in figs. 1 – 3 and cols.1 - 2. Janovac fails to disclose the material forming the filter cloth being that of a plurality of yarns. Carr (WO 974) teaches a similar filter cloth/screen (12) being composed of a plurality of stainless steel wires or polymeric fusible *yarns* (16 & 22, those formed of a polymeric fusible material such as polyethylene or polypropylene) for separation of liquid from a mixture of solids/particles and liquid such as in a vibratory screening machine, as in pages 1 – 4 and abstract. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the filter cloth of Janovac from any material to particularly that of a polymeric (yarn filament) material, in order to provide an alternative material for the filter cloth/screen as well as provide an improved material of construction which is also non-corrosive compared to its metallic counterparts and therefore more durable/longer lasting than those formed of metallic wires.

12. Concerning claim 5, Janovac, as modified by Carr also teach at least some of the yarns (22 & 16) used to form the filter cloth/screen (12) being formed of polypropylene and polyethylene, as in page 3 and abstract, which are known in the art to be heat-shrinkable. (See US patent 3,086,242 (Cook et al.) and US Patent Application Publication 2002/0066360 A1 (Greenhalgh et al.) for teachings of yarns or fibers formed of both polypropylene and polyethylene being heat-shrinkable). It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of at least some of the yarns forming the filter cloth to that of a heat-shrinkable material such as polypropylene or polyethylene, as taught by Carr, in order to provide an improved filter cloth which has the ability to not only expand or contract when exposed to changing temperature conditions but also has the ability to retain physical stability and durability compared to its metallic counterparts.

13. With respect to claim 6, here, the term "batt" has been considered to be any woven fabric or mesh by the examiner. Janovac, as modified by Carr further teach a batt (in the form of mesh layer 10) being attached/fused/laminated to the filtering portion of an upper surface of the filter cloth (12), thus obtaining a denser structure, as in figs. 1, 3 & 5. Although Janovac as modified by Carr do not teach the means of attachment of the batt (10) is needling/stitching, but rather by fusing or bonding by lamination, it is considered obvious to one of ordinary skill in the art that the end product (which would be a batt attached to an upper surface of the filter cloth)

would be the same if not, at least an obvious variant of the claimed invention. Claim 6 is considered to be a product by process claim. The patentability of a product by process claim is based upon the product itself, eventhough the claim is limited and defined by process (in this instance, needling the batt as claimed versus lamination or fusing the batt to the filter cloth as in the prior art (Carr)), and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. *See **In re Thorpe**, et al., No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966.* It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the filter cloth of Janovac by adding the embodiment taught by Carr, in order to provide an improved filtering module which provides a pre-filtering element to catch/remove finer solids/particles, thereby extending the life of the filtering module as a result.

14. Claims 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derrick Jr. et al. (US 5,221,008) in view of Janovac (517) and Merriam-Webster Collegiate Dictionary, 10th ed. page 1370.

15. With regards to claim 11, the term "yarn" has been defined broadly by the examiner to not only include those of filaments or fibers, but also including metallic wires, according to the definition of "yarn", given in Merriam-Webster Collegiate Dictionary, 10th ed. page 1370. Derrick Jr. et al. disclose a filtering apparatus (a vibratory screening machine) comprising a filtering module (24 – 27) and a filtering element (11) wherein the filtering module (24 – 27)

being arranged on the filtering element (11) as a filtering surface where liquid is separated from a mixture of solids and liquid, wherein the filtering module *is made of* (i.e. comprising) at least one/a filter cloth (24 or 25 or 26 or 27) comprising a filtering layer composed of yarns (if filter cloth is 24, the yarns/wires are 50 & 51) in the transverse and longitudinal directions and an underside of the filter cloth (particularly 24) comprising substantially parallel yarns (51) that are thicker than other yarns (54 or 59) of the cloths of the filtering module and channels are formed between and by the yarns (51) by the placement of the thicker yarns (51) at predetermined intervals and liquid filtered by the filter cloth (24) is allowed to flow in the direction of a surface of the filtering element (11), as in figs. 1 – 5 and cols.1 – 6. Derrick Jr. et al. fail to disclose the predetermined intervals of the channels formed by the thicker yarns of the cloth being defined by the other yarns of the cloth (24) extending parallel to the thicker yarns. Janovac teaches a filter cloth (10) similar to the filter cloth/screen (24) of Derrick Jr. et al., for use in vibratory screening machines such as the one taught by Derrick Jr. et al., in which the filter cloth comprises of a plurality of yarns (14, 12, 16) in the transverse and longitudinal directions and an underside of the filter cloth (10) comprising substantially parallel yarns (14) that are thicker than other yarns (12) of the filter cloth (10) and channels are formed between and by the thicker yarns (14) by the placement of the thicker yarns (14) at predetermined intervals defined by the other yarns (12) extending parallel thereto, as in figs. 1 – 3 and cols. 1 – 2. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the filter cloth of Derrick Jr. et al. by substituting it in lieu of the filter cloth taught by Janovac, in order to provide an alternative design and improved filter cloth/support screen for the screening machine/filtering apparatus of

Derrick et al., which can reduce blinding and provides a more efficient and greater capacity of separation and has a longer lifespan, as in col. 1, lines 24 – 28 & col. 2 of Janovac.

16. Regarding claim 12, Derrick Jr. et al. further disclose the filtering module (24, and/or 25 – 27) being arranged such that the channels (formed by the wires/yarns of 24) in the bottom of the cloth (24) are directed according to a structure (planar) of the filtering module, as in figs. 1 – 5.

17. Concerning claim 13, Derrick Jr. et al. also disclose the filtering module (24, and/or 25 – 27) being arranged such that the channels (formed by the wires/yarns of 24) in the bottom of the cloth (24) are directed such that the channels lead a filtered liquid to openings (19) in the filtering element (11), as in figs. 1 – 5.

18. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Janovac in view of Carr (WO 02/05974) and Greenhalgh et al. (US 2002/0066360A1).

19. Regarding claim 10, Janovac fails to teach the filtering module (filter cloth) comprising heat-shrinkable yarns, allowing the module to be stretched over the filtering element by thermal treatment. Carr teaches a similar filtering module/filter cloth to that of Janovac, in which the filtering module comprising a filter cloth (12) composed of a plurality of *heat-shrinkable* yarns (those formed of fusible polymeric material of polypropylene and/or

polyethylene), as in the abstract and figs. 1 – 5. Greenhalgh et al. teach that fibers/filaments/yarns formed of polypropylene (at least) are heat-shrinkable, as in page 3, second column, lines 1 – 3. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the yarns/wires forming the filter cloth/filtering module of Janovac by substituting it with heat-shrinkable yarns taught by Carr and Greenhalgh et al., in order to provide an improved filter cloth material which can be attached/fused to a filtering element without use of additional adhesives, as well as having the ability to be stretched/expanded (caused by vibrational movements when used in a vibratory screening apparatus) without damaging the filter cloth for a more durable and longer lasting filter cloth/screen support for the vibratory screening machine/filtering apparatus..

20. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Derrick Jr. et al. and Janovac, as applied to claim 11 above, and further in view of Carr (WO 02/05974) and Greenhalgh et al. (US 2002/0066360A1).

21. Regarding claim 14, Derrick Jr. et al. as modified by Janovac, fail to teach the filtering module (filter cloth) comprising heat-shrinkable yarns, allowing the module to be stretched over the filtering element by thermal treatment. Carr teaches a similar filtering module to that of Derrick et al. as modified by Janovac, in which the filtering module comprising a filter cloth (12) composed of a plurality of *heat-shrinkable* yarns (those formed of fusible polymeric material of polypropylene and/or polyethylene), as in the abstract and figs. 1 – 5. Greenhalgh et

al. teach that fibers/filaments/yarns formed of polypropylene (at least) are heat-shrinkable, as in page 3, second column, lines 1 – 3. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the yarns/wires forming the filter cloth of Derrick Jr. et al. as modified by Janovac by substituting it with heat-shrinkable yarns taught by Carr and Greenhalgh et al., in order to provide an improved filter cloth material which can be attached/fused to the filtering element without use of additional adhesives, as well as having the ability to be stretched/expanded (caused by vibrational movements of the apparatus) without damaging the filter cloth for a more durable and longer lasting filter cloth/screen support for the screening machine/filtering apparatus of Derrick Jr. et al.. This design would also eliminate the use of several support screens (such as those taught by Derrick et al. as screen support members 25 – 27 in cols. 5 - 6) just to provide protection against vibrational damage to and additional support to the filter cloth (24).

Allowable Subject Matter

22. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. The following is a statement of reasons for the indication of allowable subject matter: the closest prior art include Janovac (517), Carr (WO 974) and Derrick Jr. et al. (008). However

none of these prior art and those searched have disclosed or rendered obvious a filter cloth having the limitation of at least yarns of the filter cloth that are parallel to the thicker yarns in the bottom thereof and being located at the thicker yarns being multifilaments and the multifilaments (i.e. multifilament yarns) have been moulded at the thicker yarns and forming a denser cloth at the thicker yarns, as in claim 2.

Response to Arguments and Amendments

24. Applicant's arguments with respect to claims 1 and 3 - 14 have been considered but are moot in view of the new grounds of rejection based on the newly found prior art including Janovac, Derrick et al., Carr and others mentioned above. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Mondays to Fridays from 8:00 A.M. to 4:30 P.M..

26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

27. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

M.S. O.
May 29, 2003

JOHN KIM
PRIMARY EXAMINER
GROUP 1700